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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,886	03/04/2004	Dai Ueda	2004_0243A	4817

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EXAMINER

PAPE, ZACHARY

ART UNIT	PAPER NUMBER
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2835

DATE MAILED: 04/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/791,886

Applicant(s)

UEDA ET AL.

Examiner

Zachary M. Pape

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 March 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 1 and 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-3, 5-9, 11-13 and 16-22 is/are rejected.
- 7) ☒ Claim(s) 10, 14 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 5 - 7, 11-13, 17, 20, 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Azima et al. (US 6,324,052). With respect to claim 20 Azima et al. teaches the use of a portable information processing apparatus (128) comprising: a main body (137); a display unit (130) foldably attached to said main body and incorporating a display panel (129); wherein said display unit has a rear casing (comprising 167, 168); wherein a speaker unit (9) is contained between said rear casing and said display panel (As illustrated in Fig 2); wherein said rear casing has an uneven surface (As illustrated in Figs 1-2) with first (167) and second (169) raised faces, and wherein first sound release holes (171) are provided in each of said first and second raised faces of said uneven surface of said rear casing for releasing sound from said speaker unit (Column 3, Lines 22-32).

3. With respect to claim 5, Azima et al. further teaches that the first and second raised faces are provided at right and left symmetrical positions of the rear casing (As illustrated in Fig 1).

4. With respect to claim 6, Azima et al. further teaches that the speaker unit is provided in the rear casing by way of a sealing member (3).

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5. With respect to claim 7, Azima et al. further teaches that the unit comprises sound release gaps (169) positioned between the periphery of the display panel and the periphery of the rear casing. Such gaps are used for releasing sound (Column 4, Lines 13 – 17).

6. With respect to claim 11, Azima et al. further teaches that second sound releasing holes (169) are provided at the side ends of a front side of the display unit.

7. With respect to claim 12, Azima et al. further teaches that the second sound release holes are provided in parts positioned at right and left sides of the front side of the display unit (Column 4, Lines 13 – 17).

8. With respect to claim 13, Azima et al. further teaches that the second sound release holes are provided in parts positioned at upper and lower sides of the front side of the display unit as illustrated in Figs 1 and 2 (Element 169 extends from the top of the display unit to the bottom of the display unit).

With respect to claim 17, Azima et al. teaches that a dimple (170) is formed in the inside surface of the rear casing.

With respect to claim 21, Azima et al. further teaches that the first and second raised faces are in mutually facing relation so that said first sound release holes in said first raised face are in mutually facing relation with said first sound release holes in said second raised face (As illustrated in Fig 1, the first (167) and second (168) faces housing the sound holes are clearly in mutual facing relation with each other. Furthermore as exemplified by arrow (Z) each face is capable of being adjusted to any

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angle as desired by the user which includes an angle by which each are in mutually facing relation).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 2, 3, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azima et al in view of Nozawa et al. (US 6,367,324). With respect to claims 2, 3, 8, and 9 Azima et al. teaches the limitations as described in claim 20 above but fails to teach the use of a waterproof mesh sheet to cover the first sound release holes.

Nozawa et al. teaches the use of a mesh like waterproof sheet (30) attached to the inner side of a case to protect a speaker. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the waterproof mesh of Nozawa with the first sound release holes (170) of Azima et al., in order to allow the sound waves to pass through the holes and prevent the liquid from entering the speakers (Nozawa et al.: Column 3, Lines 29-33).

Claim 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Azima et al in view of Ohashi et al. (US 6,809,927). Azima et al. teaches the limitations as applied in claim 1 above but fails to teach that the rear casing is formed of magnesium alloy.

Ohashi et al. teaches the use of forming the display case out of magnesium alloy. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the magnesium alloy case of Ohashi et al. with the rear casing of Azima et al., in order to create a superior heat-radiant casing. (Ohashi et al.: Column 4, Lines 27-34)

Claim 18 rejected under 35 U.S.C 103(a) as being unpatentable over Azima et al. in view of Smith et al. (US 5,847,922). Azima et al. discloses the limitations as applied to claim 20 above except for an audio amplifier affixed to the rear casing of the display. Smith et al. teaches the use of a speaker coupled to an audio amplifier (Column 2, Lines 15-17). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the amplifier/speaker combination of Smith et al. with the rear casing of Azima et al. It is well known in the art to first amplify an audio signal and then play the signal through a speaker. In addition it would be obvious to place the amplifier near the speaker on the rear of the casing as disclosed in Azima et al. to provide for minimal signal loss in the wire between the amplifier and the speaker (A longer distance between the speaker and the amplifier would allow for more of the signal to be lost compromising the sound output from the speaker).

Claim 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Azima et al in view of Markow (US 6,304,434). Azima et al. teaches all the limitations as applied above to claim 20, but fails to teach the use of a flat piezoelectric speaker.

Markow teaches the use of piezoelectric speakers in a portable computer. It would have been obvious to one of ordinary skill in the art at the time the invention was

made to combine the piezoelectric speakers of Markow with the teachings of Azima et al. in order to create a convenient small speaker capable of being placed in the back of a display lid (Markow: Column 3, Lines 65-69).

Claim 22 rejected under 35 U.S.C. 103(a) as being unpatentable over Azima et al in view of Kim (US 6,498,721). With respect to claim 22, Azima et al. fails to teach that the first and second raised faces are fixed. Kim illustrates in Fig 1 the conventionality of having raised faces on the rear of a display (26) which are fixed with respect to each other and the display panel (21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Azima et al. with the conventional fixed rear display construction of Kim as a means of alternatively attaching (constructing) the faces to the rear of a display.

***Allowable Subject Matter***

2. Claims 10, 14 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

3. The following is an examiner's statement of reasons for allowance:

With respect to claim 10, the allowability resides in the overall structure of the device as recited in dependent apparatus claim 10 and at least in part because claim 10 recites "such that a lateral distance between said first and second raised faces varies along a vertical direction of said rear casing when said display unit is unfolded in an open position relative to said main body".

The aforementioned limitations in combination with all remaining limitations of claims 5 and 20 are believed to render said claim 10 and all claims dependent therefrom patentable over the art of record.

With respect to claim 14 and 15, the allowability resides in the overall structure of the device as recited in dependent apparatus claim 14 and at least in part because claim 14 recites "wherein a speaker box is formed of the rear casing, the first and second raised faces and the wall; and wherein the speaker unit is provided in the speaker box".

The aforementioned limitations in combination with all remaining limitations of claims 14, and 20 are believed to render said claim 14 and all claims dependent therefrom patentable over the art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

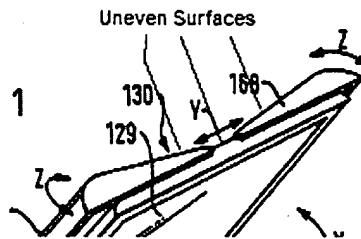
#### ***Response to Arguments***

4. Applicant's arguments filed 3/15/2005 have been fully considered but they are not persuasive.
5. In response to applicant's argument that the Azima et al. reference "does not disclose or suggest that the rear casing of its display unit has an uneven surface with first and second raised faces, wherein first sound release holes are provided in each of



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the first and second raised faces of the uneven surface of the rear casing for releasing sound from the speaker unit", as illustrated by Azima et al. in Fig 1, the rear casing (comprising 167 and 168) clearly illustrates a divide (below arrow Y) between the first panel (167) and the second panel causing a "rift" between the panels thus producing an uneven surface (See present office action Fig 1 below)

**Fig 1**

With respect to applicant's arguments on pages 8 and 9 (Of the remarks), applicant remarks that the sound release holes (170) referred to by the examiner are part of a different embodiment. The examiner has stated a new rejection necessitated by the new grounds as presented in independent claim 20 whereby the examiner is now referencing Figs 1-2 to meet the new claim language. It is clearly presented by Azima et al. through figure 2b that the first and second raised surface (167, 168) both contain the sound holes (170) as claimed by the applicant (Column 3, Lines 22-31).

6. In response to applicant's argument that there is no suggestion to combine the references of Azima et al. and Ohashi et al., Smith et al., Markow et al., and Nozawa et al., the examiner recognizes that obviousness can only be established by combining or

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modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Finè*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case of Azima et al. in view of Ohashi et al., Nozawa et al., and Markow, the motivation to combine is cited directly in the reference by the examiner. In the case of Azima et al. in view of Smith et al., Smith et al. clearly teaches in Column 2, Lines 15-17 that "the speaker is coupled to the output of a first amplifier" disclosing the conventionality of using an amplifier to increase the signal of a wave. Using the amplified signal as taught by Smith et al. and combining it with the teaching of Azima et al. provides for a means of generating a strong enough signal so that the user can adequately hear the output from the speakers. In addition placing an amplifier close to the speaker (in the instant case near the rear of the display casing) reduces the amount of signal lost during travel between the amplifier and the speaker providing a better output from the speaker.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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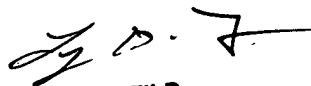
mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary M. Pape whose telephone number is 571-272-2201. The examiner can normally be reached on Mon. - Thur. & every other Fri. (8:00am - 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached at 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ZMP

  
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